CORD
Algebra 1 Third Edition, Algebra I

Degree of Evidence regarding the Standards for Mathematical Practice:

Limited Evidence

Summary of evidence:

1. **Make sense of problems and persevere in solving them**. There are some opportunities for students to explain in the Think and Discuss sections at the beginning of the practice problems. There is a formulated problem-solving plan (one mention of the plan – p. 233). In the chapters reviewed, there are very limited open-ended questions in the critical thinking (one example of critical thinking – p. 210). There is no explicit connection among tables, graphs, equations, and situations in the chapters reviewed. No opportunity was provided for reflection on answers ("Does this make sense?"). Overall, there is infrequent and limited open-ended problem-solving opportunity for students. There is very limited opportunity for students to create a problem-solving plan and follow through or determine reasonableness.
2. **Reason abstractly and quantitatively**. There are limited application problems mixed in the sections reviewed, but there is an entire section of math applications at the end of each chapter. However, these problems could be skipped because they are concentrated at the end of the chapter. Occasionally, students are asked to create a model for an application, but there is not much connection between applications and symbols. Often, symbols just appear in formulas (e.g. p. 211). Most questions are solved by applying an algorithm.
3. **Construct viable arguments and critique the reasoning of others**. In the chapters reviewed, there are very limited opportunities for students to explain their reasoning. There are "critical thinking" areas in each section, and these areas occasionally have students justify their thinking. There is some mention of students sharing their methods with the class or working together in the teacher resources (e.g. pp. 240 & 447). Explanations and discussion of justification are very limited in the chapters reviewed. There are limited opportunities for students to justify their thinking, and when they do exist, they may be skipped due to infrequency or the fact that they are in the section and not in the practice exercises.
4. **Model with mathematics**. There are some applications where students are asked to create mathematical models (e.g. pp. 224 & 466). In the application questions, answers are in context. There is an entire section of math applications at the end of each chapter; however, implementation depends on the teacher. Rarely are models used for difficult mathematical concepts. There are some opportunities for students to create mathematical models.
5. **Use appropriate tools strategically.** The resource contains graphing calculator lessons (e.g. pp. 244 & 253). There are specific questions that ask students the advantages and disadvantages to using graphing calculators, and there are frequent references in the teacher resource to graphing calculators (e.g. p. 448) There are some opportunities for students to contrast different methods (e.g. p. 464, teacher resource).
6. **Attend to precision.** Examples use proper notation and are precise. In the chapters reviewed, examples of precise communication, for example a sample student conversation in the teacher's edition, are not present. Students are given some opportunities to share their methods of solution; however, this is only mentioned in the teacher resource. There is attention to precision in the examples, but no discussion for students to tackle.
7. **Look for and make use of structure**. There are some opportunities for students to examine examples and then generalize (e.g. p. 210). Often, the rule is given, and then examples follow (e.g. pp. 223, 230, and 224). Some activities have students explore patterns to create

generalizations (e.g. parallel & perpendicular lines – p. 240). In the chapters reviewed, there is limited to no connection to prior learning. There are some opportunities for students to generalize their thoughts in the Think and Discuss sections.

8. **Look for and express regularity in repeated reasoning.** There are some examples where the resource asks students to explore patterns; then there are leading questions to get the students to generalize. Sometimes, the questions are very limiting (e.g. transformations – p. 245). In the quadratic unit, transformations are not generalized from patterns at all (as they were in the linear unit). There are some opportunities for students to generalize a pattern to determine a rule.